

# ENERVEX EDRIVE E3 MOTOR SPEED CONTROLLER

009.3210.1018 03.22

Product Information

## Use

The EDrive E3 Model Motor Speed Controller is a full-featured, industrial-type motor controller programmed used to control and adjust the speed of ENERVEX fans using EC-Motors and 3-phase Induction Motors. It's identical to the EDrive except the enclosure is NEMA 4X rated.

## Description

The EDrive E3 includes an intuitive keypad, built-in mounting brackets with easy access control terminals. The built-in LED display indicates various parameters including motor frequency, amperage and alarm conditions.

It comes pre-programmed by ENERVEX for each specific motor. If program changes are necessary, the settings can be adjusted using the keypad panel.

Features include:

- Sensorless Vector Control
- 14 basic programmable parameters
- Internal Category C1 EMC filter (on selected drives)
- Integral RFI Filter
- 0.5 HP through 1.5 HP in 120 VAC single-phase input classes
- 0.5 HP through 15 HP in 200 VAC three-phase input classes
- 0.5 HP through 2.0 HP in 200VAC-single-phase input classes
- 1 HP through 30 HP in 400 VAC three-phase input classes
- Modbus and Bluetooth connectivity

The single-phase 120V drive version has a special boost phase that initially ramps the motor voltage while maintaining a fixed starting frequency, before reducing the frequency and voltage to the desired operating point.

## Material

The frame and the cover is PC/ABS plastic. Rated NEMA 4X

## Listings

UL 508C Standard for Power Conversion

## Approvals

- CE compliant
- Full EMC Compliance

## Warranty

2-Year Factory Warranty. Complete warranty conditions are available from ENERVEX Inc.



## Specifications

Programming	OptiTools Suite
Overload Capacity	150% for 60 seconds
	175% for 2.5 seconds
Typical Efficiency	>98%
Operating Temperature	-4°F to 104°F (-20°C to 40°C)
Enclosure Rating	NEMA 4X (IP66)
Connectivity	Modbus, Bluetooth

## Dimensions

Frame Size	Height	Width	Depth
1	9.13 (232)	6.34 (161)	6.37 (162)
2	10.12 (257)	7.4 (188)	7.16 (182)
3	12.2 (310)	8.3 (211)	9.37 (238)
4	14.17 (360)	9.44 (240)	10.82 (275)

Specifications are subject to change without notice.

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### EDrive E3 Selection Charts

Fan Model	Input Voltage	EDrive Model Number	Frame Size	kW	Max. Input Current (A)	Output Current (A)	Max Cable Size		EMC Filter
							mm	AWG	
BEF 225x	1 x 120VAC	321.2206.1200	1	0.37	7.8	2.3	8	8	No
	3 x 230VAC	321.2206.2200	1	0.37	3.4	2.3	8	8	No
	3 x 460VAC	321.2206.4200	1	0.75	3.5	2.2	8	8	Yes
BEF 315x	1 x 120VAC	321.2208.1200	1	0.75	15.8	4.3	8	8	No
	3 x 230VAC	321.2208.2200	1		5.6	4.3	8	8	No
	3 x 460VAC	321.2208.4200	1		3.5	2.2	8	8	Yes
BEF 355x	1 x 120VAC	321.2210.1200	1	0.75	15.8	4.3	8	8	No
	3 x 230VAC	321.2210.2200	1		5.6	4.3	8	8	No
	3 x 460VAC	321.2210.4200	1		3.5	2.2	8	8	Yes
BEF 450X	3 x 230VAC	321.2212.2200	2	1.5	8.9	7.0	8	8	Yes
	3 x 460VAC	321.2212.4200	1		5.6	4.1	8	8	Yes
BEF 500X	3 x 230VAC	321.2214.2200	3	5.5	26.4	24.0	8	8	Yes
	3 x 460VAC	321.2214.4200	3		17.2	14.0	8	8	Yes
BEF 560x	3 x 230VAC	321.2216.2200	3	5.5	26.4	24.0	8	8	Yes
	3 x 460VAC	321.2216.4200	3		17.2	14.0	8	8	Yes
BEF 630x	3 x 230VAC	321.2218.2200	4	7.5	33.3	30.0	16	5	Yes
	3 x 460VAC	321.2218.4200	3		21.2	18.0	8	8	Yes
BEF 710X	3 x 460VAC	321.2220.4200	4	15.0	34.2	30.0	16	5	Yes
BEF 800X	3 x 460VAC	321.2222.4200	4	22.0	51.9	46.0	16	5	Yes

Fan Model	Input Voltage	EDrive Model Number	Frame Size	kW	Max. Input Current (A)	Output Current (A)	Max Cable Size		EMC Filter
							mm	AWG	
EFV 400	3 x 230VAC	321.2310.2200	1	0.75	5.6	4.3	8	8	No
	3 x 460VAC	321.2310.4200	1		3.5	2.2	8	8	Yes
EFV 450	3 x 230VAC	321.2312.2200	2	1.5	8.9	7.0	8	8	Yes
	3 x 460VAC	321.2312.4200	1		5.6	4.1	8	8	Yes

Fan Model	Input Voltage	EDrive Model Number	Frame Size	kW	Max. Input Current (A)	Output Current (A)	Max Cable Size		EMC Filter
							mm	AWG	
GSV 400	3 x 230VAC	321.3310.2200	1	0.75	5.6	4.3	8	8	No
	3 x 460VAC	321.3310.4200	1		3.5	2.2	8	8	Yes
GSV 450	3 x 230VAC	321.3312.2200	2	1.5	8.9	7.0	8	8	Yes
	3 x 460VAC	321.3312.4200	1		5.6	4.1	8	8	Yes

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### Product Information

Fan Model	Input Voltage	EDrive Model Number	Frame Size	kW	Max. Input Current (A)	Output Current (A)	Max Cable Size		EMC Filter
							mm	AWG	
RSV 400	3 x 230VAC	321.0510.2200	1	0.75	5.6	4.3	8	8	No
	3 x 460VAC	321.0510.4200	1		3.5	2.2	8	8	Yes
RSV 450	3 x 230VAC	321.0512.2200	2	1.5	8.9	7.0	8	8	Yes
	3 x 460VAC	321.0512.4200	1		5.6	4.1	8	8	Yes

Fan Model	Input Voltage	EDrive Model Number	Frame Size	kW	Max. Input Current (A)	Output Current (A)	Max Cable Size		EMC Filter
							mm	AWG	
SFTA 16	3 x 230VAC	321.2504.2200	1	0.75	5.6	4.3	8	8	No
	3 x 460VAC	321.2504.4200	1		3.5	2.2	8	8	Yes
SFTA 18	3 x 230VAC	321.2506.2200	1	0.75	5.6	4.3	8	8	No
	3 x 460VAC	321.2506.4200	1		3.5	2.2	8	8	Yes
SFTA21	3 x 230VAC	321.2508.2200	2	1.5	8.9	7.0	8	8	Yes
	3 x 460VAC	321.2508.4200	1		5.6	4.1	8	8	Yes
SFTA 24	3 x 230VAC	321.2510.2200	2	2.2	12.1	10.5	8	8	Yes
	3 x 460VAC	321.2510.4200	2		7.5	5.8	8	8	Yes
SFTA 30	3 x 230VAC	321.2512.2200	3	4.0	20.9	18	8	8	Yes
	3 x 460VAC	321.2512.4200	2	4.0	11.5	9.5	8	8	Yes
SFTA 36	3 x 230VAC	321.2514.2200	4	7.5	33.3	30.0	16	5	Yes
	3 x 460VAC	321.2514.4200	3	7.5	21.2	18.0	8	8	Yes

Fan Model	Input Voltage	EDrive Model Number	Frame Size	kW	Max. Input Current (A)	Output Current (A)	Max Cable Size		EMC Filter
							mm	AWG	
TDF 160	1 x 120VAC	321.0902.1200	1	0.37	7.8	2.3	8	8	No
	3 x 230VAC	321.0902.2200	1		3.4	2.3	8	8	No
TDF 200	1 x 120VAC	321.0904.1200	1	0.37	7.8	2.3	8	8	No
	3 x 230VAC	321.0904.2200	1		3.4	2.3	8	8	No
TDF 250	1 x 120VAC	321.0906.1200	1	0.37	7.8	2.3	8	8	No
	3 x 230VAC	321.0906.2200	1		3.4	2.3	8	8	No
TDF 300	3 x 230VAC	321.0908.2200	2	1.5	8.9	7.0	8	8	Yes
	3 x 460VAC	321.0908.4200	1		5.6	4.1	8	8	Yes
TDF 400	3 x 230VAC	321.0912.2200	2	2.2	12.1	10.5	8	8	Yes
	3 x 460VAC	321.0912.4200	2		7.5	5.8	8	8	Yes
TDF 500	3 x 230VAC	321.0914.2200	3	4.0	20.9	18.0	8	8	Yes
	3 x 460VAC	321.0914.4200	2		11.5	9.5	8	8	Yes
TDF 560	3 x 230VAC	321.0916.2200	3	5.5	26.4	24.0	8	8	Yes
	3 x 460VAC	321.0916.4200	3		17.2	14.0	8	8	Yes
TDF 620	3 x 230VAC	321.0918.2200	4	7.5	33.3	30.0	16	5	Yes
	3 x 460VAC	321.0918.4200	3		21.2	18.0	8	8	Yes
TDF 685	3 x 460VAC	321.0921.4200	4	22.0	51.9	46.0	16	5	Yes
TDF 900	3 x 460VAC	321.0922.4200	4	22.0	51.9	46.0	16	5	Yes